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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/730,213

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Jitendra Modi

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KRAMER LEVIN NAFTALIS & FRANKEL LLP
INTELLECTUAL PROPERTY DEPARTMENT
1177 AVENUE OF THE AMERICAS
NEW YORK, NY 10036

EXAMINER

SHOSHO, CALLIE E

ART UNIT

PAPER NUMBER

1714

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/730,213

Applicant(s)

MODI ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35-38 is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 11/14/06. It is noted that the double patenting rejection of record is overcome in light of applicants filing of proper terminal disclaimer on 11/14/06.

In light of the new grounds of rejection set forth below, the following action is non-final.

It is noted that the 35 USC 102 rejections utilizing Brown (U.S. 5,185,035) and Suematsu et al. (U.S. 5,597,641) in paragraphs 3 and 4 below are identical to those set forth in paragraphs 4 and 5, respectively, of the office action mailed 7/14/06 with the exception that claims 15-16 are now included in the rejection by Brown (U.S. 5,185,035) and claim 23 is now included in the rejection by Suematsu et al. (U.S. 5,597,641) given that while the limitations of these claims were previously set forth in the rejections of record, the claims were inadvertently not rejected.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2, 6, 15-17, 20, 25-26, and 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (U.S. 5,185,035).

The rejection is adequately set forth in paragraph 4 of the office action mailed 7/14/06 and is incorporated here by reference.

With respect to newly rejected claims 15-16, it is noted that from Table III, it is clear that the binder is used in amount of, for instance, 48.5%.

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4. Claims 1-2, 6-9, 12, 17, 20, 23, and 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Suematsu et al. (U.S. 5,597,641).

The rejection is adequately set forth in paragraph 5 of the office action mailed 7/14/06 and is incorporated here by reference.

With respect to newly rejected claim 23, it is noted that the wax of Suematsu et al. includes beeswax, i.e. animal wax (col.6, line 32).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. 5,185,035) or Suematsu et al. (U.S. 5,597,641) either of which in view of Ouchi et al. (U.S. 6,106,602).

The rejection is adequately set forth in paragraph 8 of the office action mailed 7/14/06 and is incorporated here by reference.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Elwakil (U.S. 5,574,078) and Herten et al. (U.S. 4,853,427).

The rejection is adequately set forth in paragraph 9 of the office action mailed 7/14/06 and is incorporated here by reference.

8. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Kruse (U.S. 5,112,398).

The rejection is adequately set forth in paragraph 10 of the office action mailed 7/14/06 and is incorporated here by reference.

9. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. 5,185,035) or Suematsu et al. (U.S. 5,597,641) either of which in view of Oliver et al. (U.S. 5,593,486).

The rejection is adequately set forth in paragraph 11 of the office action mailed 7/14/06 and is incorporated here by reference.

10. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. 5,185,035) or Suematsu et al. (U.S. 5,597,641) either of which in view of Oliver et al. (U.S. 5,593,486) and *Ethylene Homopolymers- Polywax*.

The rejection is adequately set forth in paragraph 12 of the office action mailed 7/14/06 and is incorporated here by reference.

11. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Sawada (U.S. 5,560,765).

The rejection is adequately set forth in paragraph 13 of the office action mailed 7/14/06 and is incorporated here by reference.

12. Claims 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. 5,185,035) or Suematsu et al. (U.S. 5,597,641) either of which in view of Jaeger et al. (U.S. 4,889,560).

The rejection is adequately set forth in paragraph 14 of the office action mailed 7/14/06 and is incorporated here by reference.

13. Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. 5,185,035) in view of Sandvick et al. (U.S. 5,700,516).

The disclosure with respect to Brown et al. in paragraph 3 above is incorporated here by reference.

The difference between Brown et al. and the present claimed invention is the requirement in the claims of ethylene-acrylic acid copolymer.

Sandvick et al., which is drawn to hot melt composition, disclose the use of ethylene-acrylic acid copolymer possessing acid number of 120 and viscosity at 140 °C of 650 cPs in order to provide flexibility to the composition (col.7, lines 4-6, col.8, lines 62-66, and col.21, lines 20-30).

In light of the motivation for using ethylene-acrylic acid copolymer disclosed by Sandvick et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use ethylene-acrylic acid copolymer in Brown et al. in order to produce ink with good flexibility, and thereby arrive at the claimed invention.

14. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suematsu et al. (U.S. 5,597,641) in view of Sandvick et al. (U.S. 5,700,516).

The disclosure with respect to Suematsu et al. in paragraph 4 above is incorporated here by reference.

The difference between Suematsu et al. and the present claimed invention is the requirement in the claims of specific type of ethylene-acrylic acid copolymer.

Sandvick et al., which is drawn to hot melt composition, disclose the use of ethylene-acrylic acid copolymer possessing acid number of 120 and viscosity at 140 °C of 650 cPs in order to provide flexibility to the composition (col.7, lines 4-6, col.8, lines 62-66, and col.21, lines 20-30).

In light of the motivation for using specific type of ethylene-acrylic acid copolymer disclosed by Sandvick et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such ethylene-acrylic acid copolymer in Suematsu et al. in order to produce ink with good flexibility, and thereby arrive at the claimed invention.

15. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. 5,185,035) in view of Sawada et al. (U.S. 5,965,196).

The disclosure with respect to Brown et al. in paragraph 3 above is incorporated here by reference.

The difference between Brown et al. and the present claimed invention is the requirement in the claim of animal wax.

Sawada et al., which is drawn to hot melt ink as is Brown et al., disclose the use of animal wax in order to control the thermal properties and viscosity of the ink. Further, Sawada et al. disclose the equivalence and interchangeability of using microcrystalline wax, as disclosed by Brown et al., with using animal wax as presently claimed (col.3, lines 28-30, 61-63, and 65).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use animal wax in Brown et al. in order to control the thermal properties and viscosity of the ink, and thereby arrive at the claimed invention.

16. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. 5,185,035).

Brown et al. disclose hot melt ink possessing viscosity of 5-100 cP at 100-130 °C wherein the ink comprises pigment, wax that includes mixtures of polyethylene wax and solid linear alcohol, and binder that is hydrocarbon resin (col.1, lines 8-10, col.2, lines 45-46, 52, and 56-58, col.3, lines 37-52, and col.6, lines 20-42). Although there is no disclosure of the melting point of the hot melt ink, given that Brown et al. disclose the use of ink comprising same types and amounts of ingredients as presently claimed that has viscosity, i.e. 100 cP at 100-130 °C, as presently claimed, it is clear that the ink would intrinsically possess melting point as presently claimed.

Brown discloses method of mixing the thermoplastic binder, wax, and linear alcohol (examples 14-18) to produce hot melt ink composition, however, there is no explicit disclosure of heating the composition to about 90 °C to about 135 °C to form hot melt coating which has coating viscosity between about 100 cPs and about 1200 cPs.

However, given that upon mixing the above ingredients, the ink is in solid form, it would have been obvious to one of ordinary skill in the art to heat the composition above the melting temperature so that the solid melts and the composition is able to function as a coating. Further, given that the composition of Brown would intrinsically possess melting point as presently claimed as discussed above and given that Brown et al. disclose viscosity as presently claimed, it would have been obvious to one of ordinary skill in the art to heat the composition of Brown et al. to temperature, including 100-130 °C, that is above the melting point so that the composition is flowable and able to cover substrate and that would produce desired viscosity, and thereby arrive at the claimed invention.

Response to Arguments

17. Applicants' arguments filed 11/14/06 have been fully considered but they are not persuasive.

Specifically, applicants argue that Brown et al. is not a relevant reference against the present claims given that there is no disclosure in Brown et al. of solid linear alcohol.

However, attention is called to col.3, lines 37-50 of Brown et al. that disclose that the ink comprises one or more thermoplastics, i.e. corresponding to presently claimed binder, one or more non-transparent waxes, corresponding to presently claimed wax, and a second wax that includes long chain linear alcohol, i.e. corresponding to presently claimed solid linear alcohol. Attention is also drawn to col.6, lines 20-25 of Brown et al. that also discloses solid linear alcohol.

Applicants argue that Brown et al. is not a relevant reference against the present claims given that Brown et al. discloses melt viscosity in the range of 5-100 cPs while the present claims require viscosity between about 100-1200 cPs.

However, given that the upper limit of the viscosity of the ink of Brown et al. is 100 cPs, which clearly overlaps the lower limit, i.e. about 100 cPs, of the presently claimed viscosity, it is the examiner's position that Brown et al. meets the requirements of the present claims regarding viscosity.

Applicants argue that Suematsu et al. is not a relevant reference against the present claims given that there is no disclosure in Suematsu et al. of solid linear alcohol as presently claimed.

However, attention is drawn to col.6, lines 31 and 40-41 of Suematsu et al. that discloses the use of higher aliphatic alcohol such as stearyl alcohol, i.e. solid linear alcohol.

Applicants also argue that Suematsu et al. is not a relevant reference against the present claims given that while the present claims require that the composition have viscosity between about 100 and about 1200 cPs when heated to temperature between about 90 °C and about 135 °C, Suematsu et al. disclose ink possessing viscosity of 20-200 cPs at 90 °C.

It is agreed that Suematsu et al. disclose hot melt composition having viscosity of 20-200 cPs at 90 °C, i.e. when heated to 90 °C, composition has viscosity of 20-200 cPs. Given that this viscosity clearly overlaps that presently claimed, it is the examiner's position that Suematsu et al. meets the requirements of the present claims with respect to viscosity. Given that the present claims require that when heated to temperature of about 90 °C, the viscosity is about 100 to about

1200 cPs, it is not clear why applicants argue that Suematsu et al. do not disclose viscosity as presently claimed. Clarification is requested.

Applicants argue that Ouchi et al., Elwakil, Herten et al., Kruse, Oliver et al., Sawada, and Jaeger et al. are not relevant references against the present claims given that there is no disclosure in any of the references of viscosity as presently claimed.

However, it is noted that Ouchi et al., Elwakil, Herten et al., Kruse, Oliver et al., Sawada, and Jaeger et al. are not used for their teaching of viscosity. This limitation is already taught by either Brown et al. or Suematsu et al. as described above. Further, it is noted that each of Ouchi et al., Elwakil, Herten et al., Kruse, Oliver et al., Sawada, and Jaeger et al. are used as teaching references, and therefore, it is not necessary for these secondary references to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather these reference teach a certain concept, namely, the use of specific solid linear alcohol (Ouchi et al.), specific ethylene-acrylic acid copolymer (Elwakil and Herten et al.), ethylene-vinyl acetate copolymer (Kruse), highly branched hydrocarbon wax (Oliver et al.), specific type of wax (Sawada), and specific type of plasticizer (Jaeger et al.) utilized in hot melt ink, and in combination with the primary reference, disclose the presently claimed invention.

Applicants argue that Kruse is not a relevant reference against the present claims given that Kruse's composition is fluid at room temperature while present claims are drawn to solvent

free coating composition characterized by a viscosity of about 100 and about 1200 cPs when heated to temperature between about 90 °C and about 135 °C.

However, applicants' are reminded that according to MPEP 2141.01 (a), a reference may be relied on as a basis for rejection of an applicants' invention if it is "reasonably pertinent to the particular problem with which the inventor is concerned." A reasonably pertinent reference is further described as one which "even though it maybe in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." Kruse is, therefore, a reasonably pertinent reference, because it teaches that ethylene-vinyl acetate copolymer obtained from 40% vinyl acetate adheres well to substrate, which is a function especially pertinent to Suematsu et al. and the invention at hand.

Allowable Subject Matter

18. Claims 35-38 are allowable over the "closest" prior art Brown et al. (U.S. 5,185,035) and Suematsu et al. (U.S. 5,597,641) given that there is no disclosure or suggestion in either Brown et al. or Suematsu et al. of method comprising preparing pigment dispersion by mixing pigment with a solid linear alcohol and heating to temperature above the melting point, preparing a varnish by mixing thermoplastic binder and wax and heating to temperature above the melting point of the varnish, adding the pigment dispersion to the varnish and mixing to form homogenous coating with coating viscosity between about 100 cPs and 1200 cPs at a temperature between 90 °C and about 135 °C as required in present claims 35-38.

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19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
2/2/07